Distr.
LIMITED

ECA/STAT/TW-EATPC/89/8
5 December 1989

Original: ENGLISH

ECONOMIC COMMISSION FOR AFRICA

Training Workshop on Economic Activity
Topics in Population Censuses
(Jointly organized by ILO, UNSO and ECA)

Addis Ababa, Ethiopia, 11 to 15 December, 1989

INDUSTRY

Lecture notes prepared by

Oleg V. VOLKOV 1/

Demographic and Social Statistics Branch
Statistical Office of the United Nations
New York, N.Y.

1/ The lecture notes are based on various publications and ongoing work of the United Nations Statistical Office. Nevertheless, the views expressed herein are those of the lecturer and not necessarily those of the United Nations.

Item II. I N D U S T R Y

11.1. introduction

1. To assist in the interpretation and use of the national statistics, this paper reviews briefly: - national practices during the 1970 and 1980 census decades in collecting and tabulating data on industrial characteristics of the economically active population; - general limitations of the data to be collected and of the tabulation programmes; - international recommendations concerning industrial characteristics of the economically active population (proposals for future censuses).

2. Data on industrial characteristics of the economically active population serve many users and a variety of purposes in both developed and developing countries. Among the principal users we can see government (public administration), industry, labour, domestic and foreign business organisations, educational and research institutions, and also many non-public organisations and special interest groups dealing with labour problems. These data are useful to estimate the level of the industrial development of various regions and of the country taken as a whole, the distribution of the labour force and the degree of its utilization.

3. Census data are especially important in those countries which do not have very highly developed systems of economic statistics, and for which periodic enumerations of the population classfied, inter alia, by industrial groups, are among the few sources of quantitative information about the socio-economic characteristics of the national economy. Thus, it is obvious that these nations make the maximum use of periodic census enumerations in order to obtain the data needed to design programmes of economic, industrial and social development.

4. In other countries, where a greater variety of statistics is available, much more detailed information on industrial characteristics can be obtained from other sources, such as industrial and agricultural censuses and surveys, industrial establishments and labour force sample surveys, household sample surveys, periodic reports of establishments and from (samples of) individual employers. Even in these cases, the census statistics in question are required for "benchmarks" and to answer a number of questions for which many non-census data are insufficient or unsatisfactory. Detailed discussion of limitations of these data in African countries is the matter of the training workshop.

5. The census may provide data indispensable for the economic analysis and programmes of industrial development. These data may be used in deciding where and what kind of programmes are needed to achieve a balance between supply and demand in certain population groups, industries and branches of the national economy, areas and localities. The industrial characteristics and availability of a labour supply (national and/or local) are primary considerations when planning to introduce new industries. The local availability of labour for the production and distribution of commodities may be important to determine the location and organisation of establishments and enterprises.

6. For example, local patterns of employment shown by the census for various geographical areas provide government, labour and business organisations, and other users with a basis on which to design programmes

aimed at redistribution or better use of the labour force by (a) implementation of local programmes designed to encourage (or discourage) population movements, (b) creation of local employment opportunities, and (c) establishment of a network of labour information, recruitment, and relocation centres. The census information of the industrial characteristics of the economically active population could also be used as a basis for manpower projections. Looking for opportunities, private investors also consult the comprehensive, factual kind of information provided by the census.

7. Data on industrial activities of the employed population are valuable not only for national economic and social analyses but also for the sake of the international comparisons. Co-operating among countries in the use of natural resources and in the development of markets, is a matter in which census data can be of value. Countries while being members of the United Nations economic commissions for their regions participate also in the meetings of other local and regional groups which co-operate in the economic development programmes in these areas. Such regional groups, because of their common economic purposes, meet frequently to exchange ideas and to make joint plans. They also solicit investments from outside the region.

8. International co-operative efforts are founded on a clear statement of what each country has to offer. In these efforts, they use the information on industrial characteristics of the economically active population provided by their censuses and statistical reporting organisations. Statistics and classifications used for the evaluation of conditions and for the preparation of uniform tabulations should be comparable from one country to another, thus stressing the need to observe international census guidelines. Recommendations of the United Nations are aimed to assist countries to compile comparable statistics for these joint efforts, and to make plan in common for their collection, compilation and tabulation.

9. Given the variety of important uses of data on industrial characteristics of the economically active population, it is very important to have a clear knowledge of national and international concepts and definitions used in measuring this phenomenon, the methods of data collection and compilation used, and groups of the population covered, national and international industrial classifications used for a proper understanding of the national employment situation and changes therein, and for making proper international comparisons.

11.2. National census practices, 1965-1974 and 1975-1984

10. Review of the experience which countries had during the 1970 and the 1980 population and housing census decades shows that out of 184 countries (the 1970 Round) and 192 countries (the 1980 Round), about 86% or a total of 158 and 165 countries, in both rounds, respectively, collected detailed information on industrial characteristics of the economically active population (re: Annex 1).

11. Table 1 presents five industrial characteristics of the employed persons collected by countries during the period from 1965 to 1984.

In both rounds, 153 and 159 countries, respectively, collected details describing the industry, branch of economic activity or kind of business. 98 and 97 countries, in total, in both rounds, requested detailed information on the place of work (either the name of the business or the address or both), whilst 48 countries and 43 countries, respectively, asked for the place of work only; name of business or employer or firm was asked by 88 and 90 countries, and the specific address of the business was asked by 63 and 48 countries, in both decades. Data on type and size of the establishment ("additional" topic in the United Nations recommendations) were collected in each round by a dozen of countries only.

12. The economically active population consists of the employed and unemployed persons. For the latter group, 81 and 77 countries, in both rounds, asked for the industry or the last place in which the unemployed worked during the time-reference period specified in the census.

13. The accuracy of population and housing censuses in respect of industrial characteristics of the economically active population depends on the definition of the industry or branch of economic activity. It should be concise and clear. Questions meeting exactly the definitions of topics and their specifications should also be framed so as to elicit a relevant response. For many African and for a number of Asian countries and the Pacific Ocean countries the concept of industry was one of the most difficult to explain satisfactorily and these data should be used with caution.

14. In developing countries, a significant number of respondents is either own account workers (say, individual farmers, craftsmen, etc.) or is employed by the employer belonging to the informal sector. Thus, in many cases, the respondents failed to comprehend the question on the economic activity while the enumerators themselves were unable to clarify the meaning of it and entered the industry in a way which could not be subsequently classified, such as "cattle", "fish", "industrial workers", "labourers" and the like.

15. To correct this information, in many national questionnaires an additional question on industry was asked for the major product of a person's place of work from which the industry or branch of economic activity was determined at the processing stage. About a dozen of countries, in each round, specified also the type of the establishment in order to obtain the more exact data on the industry or a branch of economic activity.

16. In a number of European countries, an additional information on industry (name and address of an establishment) and on the place of work was obtained from registers of enterprises and establishments, registers of employers, and from some other administrative and statistical registers. These data were used for coding and editing purposes. However, questions on industry and workplace did require substantial manual coding, i.e. substantial time and costs. And to reduce such costs, some countries decided to process these topics on a sample basis only.

Table 1

Industrial characteristics of the economically active population collected in population censuses, 1965 - 1984.

N/N	Industrial Characteristics of the population	Number of countries							
		WORLD	America					Ocea-	
			Africa	North	South	Asia	Europe	-nia	USSR
Total number of countries		216	56	37	14	43	37	28	1
The 1970 Population Census Round: 1965 - 1974									
Countries included in Round		184	39	36	13	35	33	27	1
Countries included in study		158	30	33	11	28	32	23	1
1.	Data on industry (branch)	153	28	33	11	27	30	23	1
2.	Name (firm, establishment)	88*	10*	22	-	9	28	18	1
3.	Adress of business (firm)	63	5	7	-	12	29	10	-
4.	Type of establishment	14	1	1	-	2	8	1	1
5.	Size of establishment	11	-	-	1	2	7	1	-
The 1980 Population Census Round: 1975 - 1984									
Countries included in Round		192	51	34	14	35	33	24	1
Countries included in study		165	42	29	10	31	29	23	1
1.	Data on industry (Branch)	159	41	29	10	30	26	22	1
2.	Name (firm, establishment)	90	13	21	2	15	19	19	1
3.	Address of business (firm)	48	6	7	2	11	18	4	-
4.	Type of establishment	12	1	1	1	-	8	-	1
5.	Size of establishment	13	-	-	1	-	11	1	-

*/ Zimbabwe: Two censuses were taken into account.

Source: Information available at the United Nations Statistical Office

See also, the United Nations publication: HANDBOOK OF POPULATION AND HOUSING CENSUS METHODS. Part IV - Economic and educational characteristics of the population. (It is now being updated by the United Nations Statistical Office. The issue is planned for the first months of 1990.)

17. International comparability of data on industrial characteristics could be obtained through the proper and universal use of the international standard industrial classification recommended by the United Nations. It was recommended that countries should make special provisions for the categories employed in the national classifications to be convertible to at least three-digit groups (levels) of ISIC-68.

18. During the 1970 and 1980 population and housing censuses decades, about forty per cent of African countries and one third of Asian countries covered by the study were able to compile data on industrial characteristics of employed persons which could be converted to the one digit level of the ISIC only; and about one fourth of African countries and 40 per cent of Asian countries compiled the required information convertible to the two-digit level of the ISIC.

11.3. International recommendations concerning industrial characteristics of the economically active population for the 1990 population and housing censuses decade

19. The national experience in the collection and processing of the data on industrial characteristics of the economically active population and in the growing use of the ISIC during the 1970 and 1980 decades of the population and housing censuses revealed aspects of ISIC-68 which should be improved. The UN Statistical Commission convened a number of expert groups and special meetings to discuss possible revisions of ISIC-68. This revision is considered necessary in view of the tremendous changes in regard to technology, industry, economic organisation that are taking place in various countries during these 2 decades.

20. At its 23rd session, in 1985, the UN Statistical Commission began the consideration of the 1990 World Population and Housing Census Programme and the related preparations with a view to assisting countries to plan and carry out improved censuses in the 1990 decade. The Statistical Commission examined the proposals on supplementary principles and recommendations for the next decade. It stressed the need to revise the present ISIC and recommended new definitions of topics on industry and sector of employment. This document 1/ provides the following (draft/tentative) recommendations:

"....

D) Industry (paras. below supersede paras. 2.202-2.205 in Series M, N.67)

59. Industry refers to the activity of the establishment in which an employed person worked during the time-reference period established for data on economic characteristics (or last worked, if unemployed).

1/ See, UN document: ST/ESA/STAT/SER.M/67/Add.1* (pages 31-33 and 39-40);

60. For purposes of international comparability, it is recommended that countries compile the industrial characteristics of active persons according to the most recent revision of the International Standard Industrial Classification of All Economic Activities (ISIC) available at the time of the census. At the time the present supplementary recommendations were being prepared, the latest revision available of ISIC was that of 1968. It is now being revised by the United Nations Statistical Office 2/. Revision of ISIC, this time, is done in a broader economic context of developing an integrated system of classification of activities and products while its historical uses in population censuses, labour force surveys, etc., are to the extent feasible, taken into account. Thus, the basis of the revision of ISIC is different from that followed in 1968 and its use by countries in population censuses will require some caution in order to ensure the inter-censal comparability of data.

61. The level of detail, i.e., section, division and groups planned in the revision will as much reflect the industrial changes since the last revision in 1968 and the experience in using ISIC until now. However, these changes are expected to be small, from 9 to 10 categories at the first digit level that will enable to maintain present ease and continuity of data collection world-wide and their international comparability. At the second digit level, the revision would reflect a tentative increase from 33 to 49 categories. At the third and fourth digit levels denoting groups and classes, the increase in number of categories is expected to be large compared to the current ISIC, pertaining mostly to the service area.

62. Countries should code the collected information on industrial status at the lowest possible level. If it is not possible to compile the data exactly in accordance with the latest ISIC available, provision should be made for converting the national classification adopted to the latest ISIC or at least to its third-digit level comprising the groups. Further, explanation of differences between national industrial classifications followed and the latest ISIC should be given in the census publications.

63. For persons reporting more than one industry during the time-reference period, the industry in which the person's main occupation was performed should be considered to be the main industry. If, however, the main occupation was performed in more than one industry, criteria for determining which is the main industry will have to be established in the same way as for determining the main occupation.

2/ In 1989, the 25th session of the United Nations Statistical Commission adopted the revised version of the ISIC (ISIC-89 or ISIC/Rev.3).

64. If the data on secondary occupation are collected, information on industry in regard to the secondary occupation may also be collected.

... ...

H. Sector of employment (paras. below supersede paras. 2.216-2.219 in Series M, No. 67)

77. Sector of employment refers to the sector of the economy in which an economically active person works. For census purposes, the basic distinction to be made should be between the public sector and the private sector. Because there is not yet any interregional consensus on the sub-categories of secors to be indentified, countries should consult the appropriate regional recommendations for further guidance.

78. In the absence of regional standards on the topic, countries may wish to take account of some of the sectors and sub-sectors defined in table 5.1 of A System of National Accounts (UN publication, Sales No. E.69.XVII.3). Depending upon the structure of the national economy, some countries may wish to subdivide the public sector into, for example, (a) general government and (b) publicly owned and controlled enterprises. The private sector may, for example, be subdivided into (a) privately owned and/or controlled enterprises and (b) households and unincorporated enterprises. Co-operative enterprises can be separately identified.

79. If the distinction to be made is simply between employment in the public sector and employment in the private sector, the information need be collected usually for persons classified as "employees" in the classification by "status in employment", because the sector of employment for persons in any of the other status categories must of necessity be the private one. For the investigation of employment in the sub-categories given as examples in paragraph 78 above, or for particular categories recommended by any region, it may be necessary to obtain the information for persons classified in one or more of the other categories of "status in employment".

80. The extent to which most persons in a country are likely to be able to supply accurate information, particularly when detailed sub-sectors are involved, should be taken into account in planning any investigation of the present topic in the census. Suitable testing prior to the census would be appropriate to determine whether or not the topic should be investigated. If the topic is included in the census, further investigation in a post-enumeration evaluation study would be helpful in determining the reliability of the results.

... ... "

21. The work on the revision of ISIC-68 started in the early 70-s. At the 17th session of the UN Statistical Commission in 1972, the 21st session of the Conference of European Statisticians in 1973

and meetings of members of both bodies with the secretariats of international organisations, there was general agreement on the need to improve harmonization between various international classifications in the economic field, and, where appropriate, in other fields.

22. At about the same time, the Customs Co-operation Council decided to revise and extend its nomenclature which was then approved by the Council in 1983 and entered into force in 1988. At the request of the Statistical Commission of the United Nations, the Statistical Office of the Secretariat of the United Nations participated intensively in the development of the new nomenclature called the Harmonized Commodity Description and Coding System, mainly in order to ensure that it would take into account, as much as possible, the industrial origin of the goods when making dissections.

23. In 1974 the Statistical Office of the United Nations Secretariat convened an Expert Group to work out recommendations and to frame the recommendations in the form of a workprogramme. On the basis of the Expert Group's report, the UN Statistical Commission, at its 19th session approved a programme to harmonize the existing activity classifications of the United Nations, of the European Communities and, if possible, of the Council for Mutual Economic Assistance and to simultaneously set up a system of different but interrelated classifications of economic activities and goods and services.

24. The latter were to use the detailed sub-headings of the above mentioned nomenclature as building blocks for its part dealing with transportable goods and should take into account the three basic categories of the economic use as specified in the United Nations System of National Accounts, i.e., capital formation, intermediate consumption and household consumption. The Standard International Trade Classification (SITC) also became part of this programme of harmonization. The Commission endorsed this programme and supported its continuation at several subsequent sessions.

25. In 1977 the Statistical office of the United Nations Secretariat and the Statistical Office of the European Communities convened a Joint Working Group on World Level Classification which met six times in Brussels and Luxembourg. It was agreed that this Working Group would develop an Integrated System of Classifications of Activities and Products (SINAP) which would serve as an interim classification, its categories being used as building blocks for the revision of the ISIC, the General Industrial Classification of Economic Activities of the European Communities and, if possible, for the Classification of Branches of the National Economy of the CMEA, and also for other related classifications of goods and services.

26. After completion of the SINAP, the Statistical Office of the United Nations Secretariat also established an Expert Group which met three times at the United Nations Headquarters in New York. The composition of the Expert Group was roughly the same as the Joint Working Group so that the continuity of its work was ensured. In both groups experts from countries with different social and economic

systems and from countries at various stages of development were represented as well as experts from international organisations and the UN regional commissions. Its main task was to review the drafts of ISIC/Rev.3 and the related Central Product Classification (CPC) and to advise the Statistical Office and the UN Statistical Commission on how to improve these drafts.

27. At its 23rd session in 1985, the UN Statistical Commission approved the third revision of the SITC and confirmed that the degree of harmonization that was reached between SITC, CPC and ISIC was in accordance with the strategy which was previously approved. The SITC, Rev.3 came into force in 1988 together with the Harmonized Commodity Description and Coding System.

28. The 3rd revision of ISIC unlike previous revisions requires harmonization with other activity classifications as well as with classifications of goods and services. This requirement had added considerable complexity and constraint that did not apply in the earlier revisions of the ISIC. The revised version of the ISIC 1/ is based on studies of the experience, during the last 2 decades, of governments, international organisations, and other users with ISIC-68, and detailed comparisons between it and national industrial classifications used by countries with different socio-economic systems and at different stages of the economic development.

29. The third revision of the International Standard Industrial Classification of All Economic Activities (ISIC/Rev.3) was adopted by the United Nations Statistical Commission at its 25th session in 1989. Thus, ISIC/Rev.3 supersedes ISIC-68. In adopting the revised classification, it was recommended that Member States adopt ISIC-89 with such modifications as might be necessary to meet national requirements without disturbing the framework of the classification; or use ISIC/Rev.3 in reporting data according to kind of economic activity for the purpose of international comparison.

30. Since the ISIC occupies a central place in international comparisons and analyses of a wide range of statistics, a lot of attention has been devoted to ensuring that it is compatible with the economic structure, the statistical practice and needs of the different countries in the world. While constructing the categories of the ISIC/Rev.3, the distinction between the material and non-material spheres of the economy delineated in the System of Balances of the National Economy (MPS) was also taken into account as far as possible.

1/ See, UN Document: ST/ESA/STAT/SER.M/4/Rev.3

31. Although the coding system and the names given to the different levels of the classification are different from those in previous versions, the general structure of the ISIC has not been changed considerably. The level of detail is now much more greater than in ISIC-68, thus the greater is its usefulness. The UN Statistical Commission as well as experts from both developed and developing countries were of the opinion that this would provide the better guidance for harmonization of statistics among countries and also for the establishment of national and regional classifications. This greater detail occurs almost in all classifications, especially in the part dealing with service activities. It was felt that the expansion of this sector of the economy in most countries in the world should be reflected in the revised version of the ISIC.

32. Since it was decided not to extend the coding system beyond the 4 digits, several categories that were shown at the 3- or 4-digit levels in ISIC-68 may now be upgraded to a higher level. Efforts were made, however, to maintain the principle that the two-digit level of the ISIC is thought to be suitable for purposes of classifying enterprises and similar units and that each of the four levels may be used in the classification of establishments or kind-of-activity units.

33. The ISIC is essentially a classification by type of activity and its title as well as explanatory notes should therefore refer to activities and not to industries. The level of detail of categories of the revised (third) version of the ISIC takes into account the different capacities of data collection of developed and developing countries, and its breakdowns correspond to the data availability in most countries in the world. International meetings of experts re-affirmed the great importance of the ISIC in population and housing censuses and recommended to use it in the next round of censuses.

34. The detail required in the classification of data by the kind of economic activity differs from country to country. Difference in the geographical and historical circumstances, in the degree of the industrial development and organization of economic activities, result in differences in the degree of elaboration in which various countries find it necessary to classify their data according to kind of economic activity. The level of detail required for purposes of international comparison is generally less than what is needed for national analysis.

35. The ISIC is intended to meet the needs of those who are looking for data classified according to internationally comparable categories of kind of economic activity. The international classification is not necessarily identical with the classification of any one country. The international classification provides individual categories for those economic activities which are important in nearly every country or which, while found only in some countries, are of considerable importance in the world economy. In delineating these individual categories the ISIC reflects the structure of production, i.e., the way in which economic activities are combined in, and distributed among, producing units in most countries.

36. Thus, the purpose of the ISIC is not to supersede national classifications but to provide a framework for the international comparisons of national data. Where national classifications differ from the international classification, this comparison may be achieved by regrouping figures obtained under national classifications, but to do so, all the elements required for such a rearrangement need to be obtainable from the natonal statistics.

37. In order to attain international comparability, it is recommended that countries, so far as individual requirements permit, adopt in their industrial classification schemes the same general principles and defininitions. Thus, it could be feasible to rearrange national classifications so that they fit the requirements of the international standard by combining entire categories of the national classification. This may not always be feasible because certain categories at the most detailed level of the ISIC may not be distinguished in industrial classifications of some countries. In this case, kind of activities covered in a given category may be quantitatively insignificant or may be combined in establishments, or similar units, with other kinds of activity.

38. The character and definition of categories of the ISIC can also serve as a useful guide to those countries who are developing an industrial classification for the first time, or to those who are revising an existing one. A number of countries have utilized ISIC-68 in this way. The purpose of national industrial classifications and of the ISIC is similar. Their schemes lend themselves, on a comparable basis, to the classification of a wide range of data so that series in each scheme may be used, compared with and related to the others.

39. A number of these series can be gathered for units which are relatively homogeneous in respect of the kind of economic activity, i.e., establishments or kind-of-activity units. It is feasible to classify data for establishments or kind-of-activity units in much greater detail than data for enterprises. It is also useful to classify some of the data for establishment-type units in greater detail than other series. In order to allow for the use of the various series of data in conjunction, one with the other, national industrial calssification schemes, like the ISIC, should consist of a number of interrelated levels of classification, ranging in detail from the most aggregated to the most detailed level of the revised version of the ISIC.

40. The objective of both national and international classification schemes is to divide data according to categories of economic activity, in such a way that the characteristics of activities classified in one category will be similar. Similarities between the activities covered in each category in respect of the type of goods and services produced, the uses to which these items are put, the intermediate and primary inputs, and the technology, organisation and financing of production will yield the data required to describe and analyse the structure, patterns of experience and interrelations of an economy. The degree of similarity between the activities included in a given category will of course vary with the level of the classification.

41. As is the case with national classifications, the revised version of the ISIC is so designed that each level will be useful for purposes of classifying kind-of-activity units and establishments according to the kind of economic activity. The ISIC categories at the most detailed level (classes), are delineated according to what is in the most countries the customary combination of activities in these statistical units. The groups and divisions, the successively broader levels of classification, combine the statistical units according to the character, technology, organisation and financing of production.

42. Classes and groups of ISIC/Rev.3 are in some cases too detailed to be used in classifying enterprises or similar institutional units according to the kind of economic activity. A significant number of enterprises will own establishment which engage in a range of activities spaning more than one class of the ISIC, though most enterprises will consist of a single establishment only. The divisions of the ISIC probably embrace a wide enough range of activities to be generally suitable to classify enterprises. A significant number of countries use more detailed categories of their national classifications to classify enterprises according to kind of economic activity than divisions of the ISIC. The use of the ISIC categories in classifying enterprises and establishments, furnishes a basis for comparing and relating series of data in respect of these two types of statistical units.

43. The use of the ISIC to classify enterprises according to kind of economic activity is recommended with far less confidence than use, for this purpose, in the case of kind-of-activity units and establishments. International experience with the industrial classification of economic units is much more limited in case of former statistical units than in case of the latter ones. Furthermore, there is likely to be considerably more diversity among countries in the range of economic activities which may be carried out by individual enterprises.

44. The more detailed information concerning principles and application of the international classification, the differences of the ISIC from other classifications and its relationship with them is given in the United Nations publication: FINAL DRAFT OF THE REVISED INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION OF ALL ECONOMIC ACTIVITIES (ISIC), Rev. 3 (Provisional, ST/ESA/STAT/SER.M/.../4/Rev.3, UN Secretariat, 1988). The correspondence tables between ISIC-68 (or ISIC/Rev.2) and ISIC-88 (or ISIC/Rev.3) are now available at the United Nations Statistical Office. They are intended to guide the users of ISIC on how to link the two revisions of the ISIC, especially at four-digit level.

45. Among tabulations recommended for the 1990 population and housing censuses round, 4 tabulations are devoted to industrial characteristics of the economically active population. Tabulation *A.4 classifies usually active population (or currently active population) by main industry, age and sex. Tabulation A.6 distributes usually active population (or currently active population) by main industry, educational attainment, age and sex. Tabulation A.10 distributes

usually active population (or currently active population) by main industry, main status in employment and sex. These tabulations are intended to replace tabulations P39*, P41, P43 and P45 presented in the United Nations global recommendations for the 1980 population and housing censuses round.

11.4. Practical implementation of itnternational recommendations in national population and housing censuses.

46. Since a questionnaire serves as the basic instrument for obtaining accurate and necessary information on industry (or industrial characteristics of the economically active population), it is important that it contains the sufficient number of questions and the data reported may be processed manually or with the help of special devices. Questions and answers categories are effective only if they are understood by the respondent and if the respondent is able and willing to provide an answer. The wording of the questions should take into account the socio-economic level and the educational level of the respondent.

47. The minimum age-limit recommended for the census questions on economic characteristics of the population ("industry" is one of these characteristics) should be set up in accordance with the conditions prevailing in most countries and it should never be higher than 15 years. Countries that have a large proportion of the labour force engaged in agriculture, a type of activity in which many children, normally, participate, could need to select a lower minimum age than would highly industrialized countries, where employment of child labour is rare. In order to permit international comparisons of these data, however, any tabulations of industrial characteristics not cross-classified by detailed age groups should at least distinguish between persons under 15 years of age and those of 15 years of age and over.

48. A topic, which is simply a word or phrase then translated into question(s) by the enumerator, should be easily understood by both, the respondent and the enumerator. It is desirable that the enumerator get acquainted with the meaning of the topic before the interview whilst the respondent could be impatient and not willing to wait long while the enumerator is searching in the enumerator's manual the definition required.

49. In addition to detailed instructions given in the enumerator's manual and in the coding manual, it is recommended also to provide the questionnaires with instructions for all or the specific (not self-explanatory) questions, namely for those on industry and occupation, activity status and status in employment, socio-economic groups. The respondent needs to know the possible response categories. To help him, if required, to find the correct answer, special pictorial symbols might be used together with numeric codes and/or boxes.

50. ISIC/Rev.3 is a classification according to kind of economic activity, and not a classification of industries, or goods and services. The activity carried out by a statistical unit is the

type of production in which it engages. It is a characteristic of the unit according to which it should be grouped with other units for certain statistics, e.g., industrial statistics. An industry is the aggregation of all units engaged primarily in the same or similar kind of activity.

51. For national purposes it is usually possible and appropriate to arrange the activities in the classification in such a way that they embrace exactly or almost exactly the range of activities carried out by a certain industry. When this is the case, activity categories and industries virtually coincide. Since combinations of activities differ from country to country, aggregates of activities are formed only in those cases where they were assumed to be representative of groupings in most parts of the world (e.g., in the case of ISIC/Rev.3 division 50: "Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel" - re: 'Annex 2' at the end of these notes).

52. It is recommended to include in the census programme the following questions covering the topic "industry":

a) For whom the respondent worked during the reference period, i.e., to give the legal status (government, private, co-operative, or other employer) and the name of the enterprise, firm, company, agency, organisation, establishment and so on, and to name the department, branch, division, section, workshop, factory or plant, etc. Self-employed persons should give the name of the business they operate.

b) What kind of business, industry or service was this, i.e., to describe fully and as exact as possible the kind of activity undertaken (say, dairy or cattle farm, cocoa plantation, barber's shop, dental clinic, shoe repair, bus company, post office, furniture making factory, etc.) to allow the identification of the branch of economic activity (or the national economy) and the type of the stablishment or kind-of-activity unit. If required, the main product or services provided by the establishment may also be reported.

c) To give as complete an address as possible (number and the street, borough or township or parish, city/town/village, district or province or municipality, postal code and post office box number). Those persons working at home should reply "worked at home".

d) Employers and own-account (self-employed) workers may be asked to report the number of persons they employ. In this case, all personnel, i.e., not only salaried employees and wage earners but also working proprietors, managers, unpaid family workers, and so on, if any, should be reported. Farmers may be asked to report the size of the farm they operate.

53. The main criteria employed in delineating divisions, groups and classes of ISIC/Rev.3 are as follows:

a) Divisions and groups: The characteristics of the activities of producing units which are strategic in determining the degree of similarity in the structure of the units and certain relationships

in an economy, namely (i) the character of the goods produced and services provided, (ii) the uses to which the goods and services are put, and (iii) the raw materials, process, technology, organization and financing of production. In delineating the divisions of the ISIC, attention was also given to the range of kinds of activities frequently carried out under the same ownership or control and to potential finance, that exist between enterprises. Additional criteria used in establishing divisions and groups were the pattern of categories at various levels of classification in national classifications.

b) Classes: The units falling into each class should be as similar in the kinds of activities in which they engage, as is feasible. Thus, the following two conditions should be satisfied: (i) the production of the category of goods and services which characterizes a given class accounts for the bulk of the output of the units classified to that class and (ii) the class contains the units which produce most of the category of goods and services which characterize it. The first condition is required in order that establishments, or similar units, may be classified according to kind of economic activity easily and uniquely and in order that the units included in a given class will be as similar, to each other, as feasible.

54. Another major consideration in forming categories in the ISIC is the relative importance of the activities to be included. In general, separate classes are provided for kinds of activities which are prevalent in most countries, or which are of particular importance in the world economy. The introduction of certain categories at the class and other levels of classification for purposes of attaining international comparability in the industrial classifications of data has also affected the balance of ISIC/Rev.3.

55. ISIC/Rev.3 does not draw distinctions according to kind of ownership, type of legal organization or mode of operation. Units engaged in the same kind of economic activity are classified in the same category of the ISIC, irrespective of whether they are (part of) incorporated enterprises, individual proprietors or government, and whether or not the parent enterprise consists of more than one establishment. Similarly, manufacturing units are classified according to the principal kind of economic activity in which they engage, whether the work is performed by power-driven machinery or by hand, or whether it is done in a factory or in a household. Classification according to kind of legal ownership, kind of organization or mode of operation may of course be constructed independently of the kind-of-economic-activity classification. Cross-classification with ISIC/Rev.3 would provide useful extra information.

56. Although ISIC/Rev.3 does not differentiate between market and non-market activities, it should be emphasized that this distinction is fundamental to the United Nations System of National Accounts. A breakdown of economic activities according to this principle is useful in any case where data on value added are collected on activities that take place on both a market and non-market basis.

This criterion should then be cross-classified with the categories of the ISIC. The United Nations System of National Accounts distinguishes non-market and market activities as follows: - market activities are those that produce goods or services intended for the market when they are sold at a price which covers at least the essential part of the costs of production; - non-market activities produce goods or services which are provided free of charge or at a price under the costs of production.

57. The distinction does not coincide with the dichotomy of public versus private companies because market services can be provided by public organisations and non-market services by private non-profit organisations. In principle, all activities could be arranged on a market or non-market basis. However, non-market services are most frequently provided by government organisations and by economic sectors such as education, health, social security, social work, etc.

58. All previous versions of the International Industrial Classification of All Economic Activities used an entirely hierarchical system of categories coded in terms of arabic numbers, arranged on a decimal system. The necessity to reflect the structure of an economy in a modern way, giving due consideration to the increasing importance of some service industries in terms of their contribution to the GDP, made the use of a new coding system inevitable. In devising the coding system, a separation was introduced in the coding structure in order to make the classification responsive to the tabulation needs of users. This was accomplished by the use of letters at the one-digit-level to single out branches of the national economy, in contrast to the coding itself which would remain purely numerical at the two-, three-, and four-digit levels to indicate divisions, groups and classes.

59. Codes are usually described in a special 'coding manual'. In general, code spaces should be placed on the questionnaire near the responses yet not interfere with the space required for the response itself. The use of scanning or the like devices for data conversion imposes additional limitations on size and design of a questionnaire, particularly with respect to the need to provide every category and code and to place them precisely. As to the industrial characteristics of the economically active population, countries are recommended to collect this information at the lowest possible level (i.e., four-digit level of ISIC-89) or at least at the three-digit level comprising the groups.

60. Annex 2 presents the illustration of the possible coding of industries or economic activities based on the categories of ISIC/Rev.3. The two-digit categories, which are now the highest numerical categories, are grouped in clusters of multiples of five which theoretically allows for 20 of such groups instead of only 10. The clusters represent the most important sectors of the national economy: agriculture and fishing, mining, manufacturing, energy supply, construction, trade, hotels and restaurants, transport, finance and business services, public administration, education, health and community services, households and extraterritorial bodies.

61. In order to make these sectors recognizable, they are coded with an arabic capital letter. All ISIC/Rev.3 tabulation categories can alternatively be coded with an entirely numerical code. Tabulation category "A" covers divisions "01" and "02", B = 05, C = 10-14, D=15-37, E = 40 and 41, F = 45, G = 50-52, H = 55, I = 60-64, J = 65-67, K = 70-74, L = 75, M = 80, N = 85, O = 90-93, P = 95 and Q = 99. Since the tabulation code is not part of the ISIC code, it can be replaced by any other character so that countries which do not use the roman alphabet can use the same groupings and re-groupings.

Types of data on employed persons collected in population and housing censuses during the period from 1965 to 1984.

Topics on economic characteristics: Industry: 1) Data describing the industry, branch of economic activity or kind of business; 2) Name of business, employer, establishment or firm; 3) Address of business, establishment or firm; 4) Type of establishment; 5) Size of establishment (number or employees); Occupation: 6) Principal or main; 7) Present occupation; 8) Usual or normal; 9) Secondary occupation; 10) Status in employment; 11) Sector of employment; 12) Time worked

Note: For the sake of the analysis, this study includes for a number of countries censuses taken in "marginal" years (1964, 1985).

NO	CONTINENTS AND COUNTRIES	Census Year	Topics on economic characteristics investigated											
			Industry						Occupation				Other	
			1	2	3	4	5	6	7	8	9	10	11	12
	WORLD R70	184	153	88	64	14	11	102	62*	11	20	152	30	91
	WORLD R80	192	159	90	48	12	13	110	56	6	22	154	46	83
	AFRICA R70	39	28	10*	5	1	0	14	20*	4	1	25	4	11
	AFRICA R80	51	41	13	6	1	0	21	22	1	3	41	5	15
			.	.	.	.	.	.	.	.	.	.	.	.
1.	Algeria	1966	+	-	+	-	-	+	-	-	-	+	+	-
	Algeria	1977	X	X	X	X	-	X	-	-	-	X	X	X
2.	Angola	1970	+	-	-	-	-	+	-	-	-	+	-	-
	Angola 1/	1983	X	-	-	-	-	X	-	-	-	X	-	-
3.	Benin	1979	X	X	-	-	-	-	X	-	-	X	-	-
4.	Botswana	1971	+	-	-	-	-	-	+	-	-	-	-	-
	Botswana	1981	X	-	-	-	-	-	X	-	-	-	-	-
5.	Br. Indian Oc. Ter.	1970 2/	---------- data not collected ----------											
6.	Burkina Faso	1975	(+)	-	-	-	-	+	-	-	-	-	-	-
	Burkina Faso	1985	.	.	.	.	.	.	.	.	.	.	.	.
7.	Burundi	1979	X	-	-	-	-	X	-	-	-	X	-	-
8.	Cameroon	1976	X	X	-	-	-	-	X	-	-	X	-	-
9.	Cape Verde	1970	+	-	-	-	-	-	+	-	-	?	-	+
	Cape Verde	1980	X	-	-	-	-	-	X	-	-	X	-	X
10.	Central Afr. Rep.	1968 3/	---------- data not collected ----------											
	Central Afr. Rep.	1975	X	-	-	-	-	X	-	-	-	X	-	-
11.	Comoros	1966	+	-	-	-	-	+	-	-	-	+	-	-
	Comoros	1980	X	-	-	-	-	X	-	-	-	X	-	X
12.	Congo	1974	-	+	-	-	-	-	+	+	+	+	-	-
	Congo	1984	.	.	.	.	.	.	.	.	.	.	.	.
13.	Côte d'Ivoire	1975	-	-	-	-	-	-	X	-	-	X	-	-
14.	Djibouti	1983	X	-	-	-	-	-	X	-	-	X	-	-
15.	Egypt	1966	+	-	-	+	-	(* *)		-	-	+	-	+
	Egypt	1976	X	X	X	-	-	(* *)		-	-	X	X	-
16.	Equat. Guinea	1983	X	-	-	-	-	X	-	-	-	X	-	-
17.	Ethiopia	1984	X	.	.	-	-	-	X	-	-	X	-	-
18.	Gabon	1969-70	+	-	-	-	-	+	+	-	-	-	-	-
	Gabon	1981	X	-	-	-	-	-	X	-	-	-	-	X
19.	Gambia	1973	-------- data not collected ----------											
	Gambia	1983	X	X	X	-	-	X	-	-	-	X	-	X
	Guinea-Bissau	1979	X	-	-	-	-	X	-	-	(X)	X	-	-

Types of data on employed persons collected in population and housing censuses during the period from 1965 to 1984.

Topics on economic characteristics: Industry: 1) Data describing the industry, branch of economic activity or kind of business; 2) Name of business, employer, establishment or firm; 3) Address of business, establishment or firm; 4) Type of establishment; 5) Size of establishment (number of employees); Occupation: 6) Principal or main; 7) Present occupation; 8) Usual or normal; 9) Secondary occupation; 10) Status in employment; 11) Sector of employment; 12) Time worked

Note: For the sake of the analysis, this study includes for a number of countries censuses taken in "marginal" years (1964, 1985).

NO	CONTINENTS AND COUNTRIES	Census Year	Topics on economic characteristics investigated											
			Industry						Occupation				Other	
			1	2	3	4	5	6	7	8	9	10	11	12
20.	Ghana	1970	+	+	+	-	-	-	+	-	-	+	-	+
	Ghana	1984	X	.	.	-	-	-	X	-	-	X	-	-
21.	Guinea	1972	+	+	-	-	-	-	+	-	-	-	-	-
	Guinea	1983	X	X	-	-	-	-	X	-	-	X	-	-
22.	Guinea-Bissau	1970	+	-	-	-	-	-	+	-	-	+	-	-
23.	Kenya	1969	---------- data not collected ----------											
	Kenya	1979	---------- no information available ----------											
24.	Lesotho	1966	-	-	-	-	-	-	+	-	-	+	-	-
	Lesotho	1976	X	-	-	-	-	X	-	-	-	X	X	-
25.	Liberia	1974	+	-	-	-	-	-	-	+	-	+	-	-
	Liberia	1984	.	.	.	.	.	.	.	.	.	.	.	.
26.	Libyan Arab)	1973	+	+	-	-	-	+	-	-	-	+	-	-
	Jamahiriya)	1984	X	X	-	-	-	X	-	-	X	X	-	-
27.	Madagascar 4/	1974-75	X	X	X	-	-	X	-	-	-	X	-	-
28.	Malawi	1966	-	-	-	-	-	-	-	+	-	-	-	+
	Malawi	1977	X	-	-	-	-	-	-	-	-	X	-	-
29.	Mali	1976	X	-	-	-	-	X	-	-	X	(X *)		-
30.	Mauritania 5/	1977	X	-	-	-	-	X	-	-	-	X	-	-
31.	Mauritius	1972	+	+	+	-	-	-	+	+	-	+	-	-
	Mauritius	1983	X	X	X	-	-	-	X	-	-	X	-	X
32.	Morocco	1971	+	-	-	-	-	+	-	-	-	+	-	+
	Morocco	1982	X	-	-	-	-	X	-	-	-	X	-	-
33.	Mozambique	1970	+	-	-	-	-	-	+	-	-	+	-	-
	Mozambique	1980	---------- no information available ----------											
34.	Namibia	1970	---------- no information available ----------											
35.	Niger 6/	1977	X	-	-	-	-	X	-	-	-	X	-	-
36.	Nigeria	1973	+	?	?	-	-	-	+	-	-	-	-	-
37.	Reunion	1974	+	+	+	-	-	-	+	-	-	+	-	+
	Reunion	1982	X	X	X	-	-	-	X	-	-	X	-	X
38.	Rwanda	1978	X	-	-	-	-	-	X	-	-	X	-	-
39.	St. Helena	1966	-	-	-	-	-	+	-	-	-	+	-	-
	St. Helena	1976	-	X	-	-	-	-	X	-	-	X	-	-

NO	CONTINENTS AND COUNTRIES	Census Year	Topics on economic characteristics investigated											
			Industry						Occupation				Other	
			1	2	3	4	5	6	7	8	9	10	11	12
40.	Sao Tome/Principe	1970	-	+	-	-	-	-	+	-	-	+	-	-
	Sao Tome/Principe	1981	---------- no information available ----------											
41.	Senegal	1976	-	-	-	-	-	-	X	-	-	X	-	-
42.	Seychelles	1971	+	-	-	-	-	-	+	-	-	+	-	-
	Seychelles	1977	X	-	-	-	-	X	-	-	-	X	-	X
43.	Sierra Leone	1974	+	-	-	-	-	+	-	-	-	(* +)		-
	Sierra Leone	1985	.	.	.	.	.	.	.	.	.	.	.	.
44.	Somalia 7/	1975	X	X	-	-	-	-	X	-	-	X	-	-
45.	South Africa	1970	+	+	-	-	-	-	+	-	-	+	+	-
	South Africa	1980	X	X	-	-	-	-	X	-	-	X	X	-
46.	Sudan	1973	+	-	-	-	-	+	-	-	-	+	-	-
	Sudan	1983	X	-	-	-	-	X	-	-	-	X	-	X
47.	Swaziland	1966	+	-	-	-	-	-	+	-	-	-	-	-
	Swaziland	1976	X	-	-	-	-	-	X	-	-	-	-	X
48.	Togo	1970	+	-	-	-	-	+	-	-	-	+	-	-
	Togo	1981	X	-	-	-	-	X	-	-	-	X	-	X
49.	Tunisia	1966	+	-	-	-	-	+	-	-	-	+	-	+
	Tunisia	1984	X	-	-	-	-	X	-	-	-	X	-	X
50.	Uganda	1969	---------- data not collected ----------											
	Uganda	1980	X	-	-	-	-	-	X	-	-	X	-	?
51.	U.R. of Tanzania	1967	+	-	-	-	-	+	-	-	-	+	-	-
	U.R. of Tanzania	1978	X	-	-	-	-	X	-	-	-	X	-	-
52.	Zaire	1984	X	-	-	-	-	-	X	-	-	X	-	X
53.	Zambia	1969	+	-	-	-	-	-	+	-	-	+	-	+
	Zambia	1980	X	-	-	-	-	-	X	-	-	X	-	X
54.	Zaimbabwe (N/Afr)	1969	+	+	+	-	-	-	+	-	-	+	-	+
	Zimbabwe (Afr.)	1969	-	+	-	-	-	-	+	-	-	-	+	+
	Zimbabwe	1982	X	-	-	-	-	-	-	X	-	X	-	X

Footnotes to Annex

ND: (+) or (X) - These data can be obtained from replies to other questions, i.e. on status in employment or on socio-economic status;

(* *) - Topics grouped together;

1/ Population census for the Province of Luanda only.

2/ Census covered only the population of isl-s Aldabra, Farquhar & Des Roches.

3/ "Recensement instantane" in 1968.

4/ For provincial capitals, 1st December 1974; for Antananarive and remaining urban areas, 17th February 1975; for rural areas, 1st June 1975.

5/ In some publications, 1.I.1977 is mentioned as census date. Enumeration of sedentary population: 22.XII.1976 - 5.I.1977, and of nomads; Jan.-April 1977.

6/ Enumeration of nomads in northern areas: May - July 1977.

7/ Data refer mainly to the settled population: Sampling was used for nomads.

Tabulation categories, divisions, groups and classes of the revised International Standard Industrial Classification of All Economic Activities (Excerpts from ISIC-89 or the ISIC/Rev.3)

Source: The United Nations document: FINAL DRAFT OF THE REVISED INTERNATIONAL STANDARD INSUSTRIAL CLASSIFICATION OF ALL ECONOMIC ACTIVITIES (ISIC), Rev.3. Provisional, ST/ESA/STAT/SER.M/4/Rev.3. 4 August 1988.

Tabulation Categories	Group	Class	DESCRIPTION
A			AGRICULTURE, HUNTING AND FORESTRY
	DIVISION	01	AGRICULTURE, HUNTING AND RELATED SERVICE ACTIVITIES
	011		Growing of crops; market gardening; horticulture
		0111	Growing of cereals and other crops n.e.c.
		0112	Growing of vegetables, horticultural specialities and nursery products
		0113	Growing of fruit, nuts, beverage and spice crops
	012		Farming of livestock
		0121	Farming of cattle, sheep, goats, horses, asses, mules and hinnies; dairy farming
		0122	Other livestock farming; production of animal products n.e.c.
	013	0130	Growing of crops combined with farming of livestock (mixed farming)
	014	0140	Agricultural and animal husbandry service activities, except veterinary activities
	015	0150	Hunting, trapping and game propagation including related service activities
	DIVISION	02	FORESTRY, LOGGING AND RELATED SERVICE ACTIVITIES
B			FISHING
	DIVISION	05	FISHING, OPERATION OF FISH HATCHERIES AND FISH FARMS; SERVICE ACTIVITIES INCIDENTAL TO FISHING
	050	0500	Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing
	...	...	... ...

Tabulation categories, divisions groups and classes of the revised International Standard Industrial Classification of All Economic Activities (Excerpts from ISIC-89 or the ISIC/rev.3)

Tabulation Categories	Group	Class	DESCRIPTION
C	MINING AND QUARRYING		
	DIVISION	10	MINING OF COAL AND LIGNITE; EXTRACTION OF PEAT
	101	1010	Mining and agglomeration of hard coal
	102	1020	Mining and agglomeration of lignite
	103	1030	Extraction and agglomeration of peat
	...	...	... ...
D	MANUFACTURING		
	DIVISION	20	MANUFACTURING OF WOOD AND OF PRODUCTS OF WOOD AND CORK, EXCEPT FURNITURE; MANUFACTURE OF ARTICLES OF STRAW AND RELATED MATERIALS
	201	2010	Sawmilling and planning of wood
	202		Manufacture of products of wood, cork, straw and plaiting materials
		2021	Manufacture of veneer sheets; manufacture of plywood, laminboard, particle board, other panels & boards
		2022	Manufacture of builders' carpentry and joinery
		2023	Manufacture of wooden containers
		2024	Manufacture of other products of wood; manufacture of articles of cork, straw and plaiting materials
	DIVISION	21	MANUFACTURE OF PAPER AND PAPER PRODUCTS
	210		Manufacture of paper and paper products
		2101	Manufacture of pulp, paper and paperboard
		2102	Manufacture of corrugated paper and paperboard and of containers of paper and paperboard
		2109	Manufacture of other articles of paper & paperboard
	... ...		... ...

Tabulation categories, divisions, groups and classes of the revised International Standard Industrial Classification of All Economic Activities
(Excerpts from ISIC-88 or the ISIC/rev.3)

Tabulation Categories	Group	Class	DESCRIPTION
G			WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES, MOTORCYCLES AND PERSONAL AND HOUSEHOLD GOODS
	DIVISION	50	SALE, MAINTENANCE AND REPAIR OF MOTOR VEHICLES AND MOTORCYCLES; RETAIL SALE OF AUTOMOTIVE FUEL
		501	5010 Sale of motor vehicles
		502	5020 Maintenance and repair of motor vehicles
		503	5030 Sale of motor vehicle parts and accessories
		504	5040 Sale, maintenance and repair of motorcycles and related parts and accessories
		505	5050 Retail sale of automotive fuel
	DIVISION	51	WHOLESALE TRADE AND COMMISSION TRADE, EXCEPT OF MOTOR VEHICLES AND MOTORCYCLES
		511	5110 Wholesale on a fee or contractual basis
		512	Wholesale of agricultural raw materials, live animals, food, beverages and tobacco
			5121 Wholesale of agricultural raw materials and live animals
			5122 Wholesale of food, beverages and tobacco
		513	Wholesale of household goods
			5131 Wholesale of textiles, clothing and footwear
			5139 Wholesale of other household goods
		514	Wholesale of non-agricultural intermediate products, waste and scrap
			5141 Wholesale of solid, liquid and gaseous fuel and related products
			5142 Wholesale of metals and metal ores
			5143 Wholesale of construction materials, hardware, plumbing and heating equipment and supplies
			5149 Wholesale of other intermediate products, waste, scrap
		515	5150 Wholesale of machinery, equipment and supplies
		519	5190 Other wholesale
...	....		... ...